

REMARKS

Claims 1-18 are pending in this application. By this Amendment, Claims 1, 8-10 and 17-18 are amended. No new matter is added.

Section §112, Second Paragraph, Rejection

The Office Action rejects claims 8-18 under 35 U.S.C. §112, second paragraph, as being indefinite for containing asserted informalities. Applicants believe that this rejection is overcome with above-amended claims 8-10 and 17-18, in which are made the amendments suggested by the Examiner. Reconsideration and withdrawal of the rejection of claims 8-18 under 35 U.S.C. §112, second paragraph, are respectively requested.

Section §102 and §103 Rejections

The Office Action rejects claims 10-14, 16 and 17 under 35 U.S.C. §102(e) as being anticipated by Kataoka et al. (U.S. Patent No. 6,307,145), with evidence of physical properties provided by "Polyethylene Terephthalate (PET)" from The Loctite Design Guide for Bonding Plastics, Volume 2 (pp. 50-51) and "Common Shrinkage Values" from GE Polymerland. The Office Action also rejects claims 1-5, 7 and 8 under 35 U.S.C. §103(a) as being obvious over Kataoka et al. in view of Tourneux (U.S. Patent No. 4,210,462), with evidence of physical properties provided by "Polyethylene Terephthalate (PET)" from The Loctite Design Guide for Bonding Plastics, Volume 2 (pp. 50-51) and "Common Shrinkage Values" from GE Polymerland. The Office Action also rejects claims 6 and 9 under 35 U.S.C. §103(a) as being obvious over Kataoka et al. in

view of Tourneux and further in view of Komori et al. (EP 0 829 909 A2). The Office Action also rejects claims 15 and 18 under 35 U.S.C. §103(a) as being obvious over Kataoka et al. and further in view of Komori et al. The Office Action also rejects claims 10, 14, 17 and 18 under 35 U.S.C. §103(a) as being obvious over Komori et al. in view of Yamada et al. (EP 0 860 886 A2). Somewhat similarly, the Office Action rejects claims 11 and 16 under 35 U.S.C. §103(a) as being obvious over Komori et al. in view of Yamada et al. and further in view of asserted "Admissions of prior art made in the instant specification." These rejections are traversed as they may apply to the amended claims.

Present claims 1-9 require, *inter alia*, a "solar cell module comprising a front surface protecting layer, a rear surface protecting layer, and solar cells and a moisture proof resin film sealed within sealing resin between the front surface protecting layer and the rear surface protecting layer...wherein the resin film is formed to overlay an area including an array of the solar cells" (excerpt of claim 1).

Present claims 1-18 require, *inter alia*, a "solar cell module comprising a front surface protecting layer, a rear surface protecting layer, and a solar cell and a resin film sealed within sealing resin between the front surface protecting layer and the rear surface protecting layer, wherein all edges of the resin film are covered with the sealing resin..."

Regarding present claims 1-9, the Office Action notes that Kataoka et al. disclose that "[p]hotovoltaic elements produced by the [Kataoka et al.] techniques are connected in series or parallel, depending upon desired voltage or electric current. Another arrangement may be such that photovoltaic elements are integrated on an insulated

substrate to achieve desired voltage or current” (column 10, lines 50-54). The Office Action thus asserts that resin film 108 would cover an area including an array of solar cell elements.

Applicants disagree with the Examiner’s interpretation of Kataoka et al. since, in such a configuration, the resin film 108 for each of the solar cell elements would cover only an area including one solar cell element, and thus not cover an area including an array of solar cell elements.

However, in order to expedite prosecution of this application, Applicants have amended the claims to make even more clear that the resin film of the present claims 1-9 “is surrounded on all sides by sealing resin” (see above amended claim 1, as well as paragraph [0040] on page 9 of the specification and the figures including particularly figure 1).

Similarly, claim 10 is amended to change “edges” to --surfaces-- in order to define that “all surfaces of the resin film are covered with the sealing resin.”

Applicants note that in Kataoka et al., the asserted Kataoka et al. resin film layer is not surrounded on all sides by sealing resin, as would be required to meet the limitations of amended claims 1-9. Similarly, not all surfaces of the asserted Kataoka et al. resin film layer are covered with sealing resin, as would be required to meet the limitations of amended claims 10-18.

Regarding Tourneux, as is the case for Kataoka et al., the asserted Tourneux resin film layer is not surrounded on all sides by sealing resin, as would be required by amended claims 1-9. Similarly, nor all surfaces of the asserted Tourneux resin film layer are covered with sealing resin, as would be required by amended claims 10-18.

Similarly, not all surfaces of the asserted Tourneux resin film layer are covered with sealing resin, as would be required by amended claims 10-18.

Regarding Komori, as is the case for Kataoka et al. and for Tourneux, the asserted Komori resin film layer is not surrounded on all sides by sealing resin, as would be required by amended claims 1-9. Similarly, not are all surfaces of the asserted Komori resin film layer are covered with sealing resin, as would be required by amended claims 10-18.

Regarding Yamada et al., the asserted Yamada et al. resin film layer is not surrounded on all sides by sealing resin, as would be required by our proposed amended claims 1-9. Similarly, not are all surfaces of the asserted Yamada et al. resin film layer are covered with sealing resin, as would be required by amended claims 10-18. The Office Action does assert that “Yamada et al. disclose... [that the] sealing material 103 completely contains...the resin film 105.” However, we note that Yamada et al. actually teach that the “insulating member 105”resin film is “on a support member 101” (see page 3, line 15). In particular, Yamada et al. disclose that “[w]hen the adhesion strength of the insulating member is weak to the solar cell device, an adhesive can be used at the interface to the insulating member” (see page 5, lines 15-17).

Thus, as it is clear that the Yamada et al. support member 101 and insulating member 105 have an interface and/or the insulating member 105 is coated with adhesive, the Yamada et al. insulating member 105 cannot be surrounded on all sides by sealing resin or have all surfaces covered with sealing resin, as would be required by the amended claims

The Office Action asserts that “[i]t would have been obvious ...to have modified the sealing resin of Komori et al. to completely contain the solar cell and resin film as taught by Yamada et al. because completely enclosing the solar cell would ‘protect the solar cell from stress or the like from the outside” (see the sentence bridging pages 15 and 16 of the Office Action.

For the reasons discussed above, Applicants respectfully submit that Yamada et al. do not disclose sealing resin of completely containing a solar cell and resin film. However, in any case, Applicants further submit that one of skill in the art would not have been motivated to completely enclose the solar cell of Komori et al. In fact, Applicants respectively submit that **Komori et al. clearly teaches against completely enclosing the solar cell.** In particular, Applicants note that Komori teaches that “[i]n a conventional solar cell module production process, a sequence has been generally adopted such that a sheet-form filler resin 103 is disposed on both surfaces of a photo-electricity generating device 101...In contrast thereto, the solar cell module according to the [Komori et al.] invention typically has a laminate structure as shown in Figures 1A and 1B. Thus, a stacked structure including a photo-electricity generating device 101, an inorganic fibrous sheet 102, a filler resin sheet 103, a surface film 104, adhesive layers 105, an insulating film 106 and a substrate 107 stacked in the order shown in Figure 1A or in a reverse order...The order having the surface film 104 on top as indicated in Figure 1A is preferred because it allows a sufficient coverage of the solar cell 101 **with a smaller amount of the filler resin 103**” (see page 8, lines 9-17, emphasis added).

As Komori et al. further teach, “[i]n a case where a substrate of a solar cell module including a solar cell sealed with a filler resin...is bent...a lowering in electrical insulation is inevitably caused when used outdoors for a long period of time...” (see page 2, lines 35-19).

Thus Applicants respectfully submit that Komori clearly teaches against enclosing a solar cell with a filler resin and further that one of skill in the art would thus be motivated by Komori et al. to not completely enclose a solar cell with a filler resin.

Finally, regarding “Polyethylene Terephthalate (PET)” from The Loctite Design Guide for Bonding Plastics, Volume 2 (pp. 50-51), “Common Shrinkage Values” from GE Polymerland, and the asserted “Admissions of prior art made in the instant specification,” Applicants note that none of these citations disclose a resin film layer surrounded on all sides by sealing resin or having all surfaces covered with sealing resin, as would be required by the amended claims.

For at least the above reasons, reconsideration and withdrawal of the rejections under 35 U.S.C. 102(e) and 103(a) are respectively requested.

Applicants respectfully submit that this application is in condition for allowance and such action is earnestly solicited. If the Examiner believes that anything further is desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact Applicants' undersigned representative at the telephone number listed below to schedule a personal or telephone interview to discuss any remaining issues.

Should this response not be considered timely filed, Applicants petition for any necessary extension of time. Please charge any fees for such a petition and/or charge any fee deficiency or credit any overpayment to Deposit Account No. 01-2300, referencing Attorney Docket No. 107336-00025.

Respectfully submitted,

A handwritten signature in black ink, reading "Robert K. Carpenter", with a long horizontal flourish extending to the right.

Robert K. Carpenter
Registration No. 34,794

ARENT FOX KINTNER PLOTKIN & KAHN, PLLC
1050 Connecticut Avenue, N.W.,
Suite 600
Washington, D.C. 20036-5339
Tel: (202) 857-6000
Fax: (202) 638-4810

RKC